REMARKS

Rejection under 35 U.S.C. §102(a)

Claims 1-4, 13, 17, 21, 25, 29 and 33 were rejected under 35 U.S.C. 102(a) as being anticipated by Japanese Publication No. 2001-338976 (JP2001-338976).

Applicants respectfully traverse this rejection.

Claim 1 has been amended to recite "wherein in the pressure adjusting step, the pressure in the deposition chamber is gradually decreased from the first pressure to the second pressure without introduction of a raw material gas of the insulation film into the deposition chamber." Thus, according to the present invention, the pressure in the deposition chamber is gradually decreased from the first pressure to the second pressure without introduction of a raw material gas into the deposition chamber during the pressure adjusting step.

JP2001-338976 discloses a manufacturing method of a semiconductor device comprising the step of depositing an insulation film with a first pressure and the step of further depositing the insulation film with the second pressure lower than the first pressure. In JP2001-338976, supply of a raw material gas is not interrupted in a process from the first step to the second step.

Thus, JP2001-338976 does not teach or suggest "wherein in the pressure adjusting step, the pressure in the deposition chamber is gradually decreased from the first pressure to the second pressure without introduction of a raw material gas of the insulation film into the deposition chamber," as recited in amended claim 1.

According to the present invention, because the raw material gas is not introduced into the deposition chamber in the pressure adjusting step, the insulation film is not deposited in an unstable atmosphere. Thus, the insulation film of highly uniform film thickness can be formed. Furthermore, according to the present invention, the infra-plane distribution of the insulation film is concentric. Therefore, unevenness of the film thickness of the inter-layer insulation film can be suppressed when the surface of the insulation film is polished by CMP. Accordingly, the present invention can provide an insulation film with a sufficiently flat surface.

JP2001-338976 does not teach or suggest such feature of the present invention. In JP2001-338976, supply of the raw material gas is not interrupted in the process from the first step to the second step.

For at least these reasons, claim 1 patentably distinguishes over JP2001-338976.

Therefore, the 35 U.S.C. 102(a) rejection should be withdrawn.

New Claim 38

Claim 38 recites "wherein in the pressure adjusting step, a pressure in the deposition chamber is gradually decreased at a rate smaller than 40 Torr/sec." New claim 38 corresponds to original claim 3.

The Examiner alleged that the feature of original claim 3 was disclosed in the paragraph. [0041] and drawing 18 of Japanese Publication No. 2001-338976.

However, the paragraph [0041] discusses a growth pressure but not the pressure decrease rate in the deposition chamber. Furthermore, drawing 18 of JP2001-338976 has nothing to do with the pressure decrease rate. Drawing 18 of JP2001-338976 is a drawing showing a relationship between the pressure and the film deposition rate under a BPSG film deposition by thermal CVD. In drawing 18 of JP2001-338976, the horizontal axis indicates the pressure under the film deposition, and the vertical axis indicates the film deposition rate. Drawing 18 of JP2001-338976 does not show the pressure decrease rate in the deposition chamber. Therefore, the Examiner's allegation is not appropriate.

In the present invention, because a pressure in the deposition chamber is gradually decreased at a rate smaller than 40 Torr/sec in the pressure adjusting step, the extreme decrease of the pressure in the deposition chamber is prevented (see Examples 1-4 of FIG. 8 of the present application).

Thus, JP2001-338976 does not teach or suggest "wherein in the pressure adjusting step, a pressure in the deposition chamber is gradually decreased at a rate smaller than 40 Torr/sec."

For at least these reasons, new claim 38 patentably distinguishes over JP2001-338976.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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